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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,104	10/01/2001	David Napolitano	61538-013	4792

7590 08/16/2004

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EXAMINER

DO, CHAT C

ART UNIT	PAPER NUMBER
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2124

DATE MAILED: 08/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/966,104

Applicant(s)

NAPOLITANO, DAVID

Examiner

Chat C. Do

Art Unit

2124

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/1/01; 12/26/01; 11/27/02.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8-13, 16-22 is/are rejected.
- 7) ☒ Claim(s) 5-7, 14 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-22 are examined.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 8-10, 16-17, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Chrin (U.S. 4,577,287).

Re claim 1, Chrin discloses in Figures 1 and 5 a method for generating an electronic signal (e.g. $\sin(a+b)$ in expression 1 col. 1), comprising: determining an update phase-angle (angle b) associated with the electronic signal; computing a first value (value c in col. 2 line 9) of a function based on an interpolation (col. 1 lines 12-16) using a first set of data-values that generally describe the function (approximation function), the update phase-angle (b) and a second set of pre-calculated-values (d), wherein the pre-calculated values are based on spacing differences between the data-values; and updating the electronic signal based on the first value (e.g. output of final signal as $\sin(a+b)$).

Re claim 8, Chrin further discloses in Figures 1 and 5 the electronic signal is an analog signal having sinusoidal form (output signal is either sine or cosine).

Re claim 9, Chrin further discloses in Figures 1 and 5 producing a communication signal having embedded information based on the electronic signal (abstract).

Re claim 10, it is an apparatus claim of claim 1. Thus, claim 10 is also rejected under the same rationale as cited in the rejection of rejected claim 1.

Re claim 16, it is an apparatus claim of claim 9. Thus, claim 16 is also rejected under the same rationale as cited in the rejection of rejected claim 9.

Re claim 17, it is machine-readable medium claim of claim 1. Thus, claim 17 is also rejected under the same rationale as cited in the rejection of rejected claim 1.

Re claim 20, it is an apparatus claim of claim 1. Thus, claim 20 is also rejected under the same rationale as cited in the rejection of rejected claim 1.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2-4, 11-13, 18-19, and 21-22 are rejected under 35 U.S.C. 103(a) as being obvious over Chrin (U.S. 4,577,287) in view of Noetzel (U.S. 5,068,816).

Re claims 2-3, Chrin fails to disclose in Figures 1 and 5 step of interpolating is based on a Lagrange technique and the data-values are equally-spaced. However, the Lagrange is well known in the art and widely used as seen in Noetzel. Noetzel discloses

Art Unit: 2124

5 an interpolation using Lagrange technique (col. 9 lines 17-23) and the data-values are equally-spaced (Figures 2). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention is made to add Lagrange technique for interpolation within the data-values are equally-spaced as seen in Noetzel's invention into Chrin's invention because it would enable to easy compute and amenable to analysis (col. 9 lines 47-50).

Re claim 4, Chrin further discloses in Figure 2 the pre-calculated values are substantially the sum value (4).

Re claim 11, it is an apparatus claim of claim 2. Thus, claim 11 is also rejected under the same rationale as cited in the rejection of rejected claim 2.

Re claim 12, it is an apparatus claim of claim 3. Thus, claim 12 is also rejected under the same rationale as cited in the rejection of rejected claim 3.

Re claim 13, it is an apparatus claim of claim 4. Thus, claim 13 is also rejected under the same rationale as cited in the rejection of rejected claim 4.

Re claim 18, it is machine-readable medium claim of claim 2. Thus, claim 18 is also rejected under the same rationale as cited in the rejection of rejected claim 2.

Re claim 19, it is machine-readable medium claim of claim 3. Thus, claim 19 is also rejected under the same rationale as cited in the rejection of rejected claim 3.

Re claim 21, it is an apparatus claim of claim 2. Thus, claim 21 is also rejected under the same rationale as cited in the rejection of rejected claim 2.

Re claim 22, it is an apparatus claim of claim 3. Thus, claim 22 is also rejected under the same rationale as cited in the rejection of rejected claim 3.

Allowable Subject Matter

6. Claims 5-7 and 14-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. U.S. Patent No. 5,732,107 to Phillips et al. disclose an FIR interpolator with zero order hold and FIR-spline interpolation combination.
- b. U.S. Patent No. 6,426,977 to Lee et al. disclose a system and method for applying and removing Gaussian covering functions.
- c. U.S. Patent No. 6,311,046 to Dent discloses a linear amplification systems and methods using more than two constant length vectors.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chat C. Do whose telephone number is (703) 305-5655. The examiner can normally be reached on M => F from 7:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chaki Kakali can be reached on (703) 305-9662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2124

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chat C. Do
Examiner
Art Unit 2124

8/5/2004

K. Chari
KAKALI CHARI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100